

APR 03 2008Amendments to the Claims:

Claims 16 to 40 are cancelled and claims 41 to 52 are added as set forth below.

Listing of Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Claims 1 to 40 (Cancelled).

41. (New) A surgical microscope comprising:

a viewing unit for viewing an object and said viewing unit defining a viewing beam path;

an image data supply for supplying image data;

5 an image projection module connected to said image data supply for receiving said image data and inputting said image data into said viewing beam path;

said image projection module including an image display unit for displaying said data image;

10 a first beam splitter mounted in said viewing beam path for receiving said data image displayed by said display unit and passing said image data into said viewing beam path;

an image recording module for recording said data image and an object image of said object supplied by said viewing unit;

15 said image recording module including an image sensor;

a second beam splitter mounted in said viewing beam path for

directing said object image onto said image sensor;

said image sensor generating an image signal from said object image;

20 said image recording module further including a mixer connected to said image sensor for receiving said image signal and being connected to said image data supply for receiving said image data to mix said image signal and said image data and generate an output signal;

25 a video-recorder/monitor connected to said mixer for receiving said output signal for display to a surgeon; and,

a shutter interposed between said first beam splitter and said object to suppress said object image to facilitate viewing said image data in said viewing unit.

42. (New) The surgical microscope of claim 41, said image projection module further including an imaging optic having a plano-convex lens and a plano-concave lens mounted downstream of said image display unit for transmitting said data image to said
5 first beam splitter.

43. (New) The surgical microscope of claim 42, wherein said plano-concave lens is disposed downstream of said image display unit and said plano-convex lens is interposed between said plano-concave lens and said first beam splitter.

44. (New) The surgical microscope of claim 43, wherein said image display unit is an LCD image display unit.

45. (New) The surgical microscope of claim 44, wherein said plano-convex lens has a first focal length and said plano-concave lens has a second focal length; and, the ratio of said first focal length and said second focal length lies within a range
5 from 1.9 to 2.5.

46. (New) The surgical microscope of claim 45, wherein said plano-convex lens is a first plano-convex lens; said image projection unit further includes a concave-convex lens and a second plano-convex lens; and, said first plano-convex lens, said
5 plano-concave lens, said concave-convex lens and said second plano-convex lens all are arranged between said LCD image display unit and said first beam splitter.

47. (New) The surgical microscope of claim 44, wherein the brightness of said LCD image display unit is increased by providing a time-dependent sequential illumination of a reflection display with only a single color.

48. (New) The surgical microscope of claim 44, wherein said LCD image display unit includes a reflection display illuminated sequentially with different colors as a function of time.

49. (New) The surgical microscope of claim 41, wherein said image sensor is a CCD chip.

50. (New) The surgical microscope of claim 41, wherein said image display unit includes a rotatably mounted filter wheel for

illuminating said reflection display; and, a device for
synchronizing the rotation of said filter wheel with the clock
5 ratio of said reflection display.

51. (New) A surgical microscope comprising:

a viewing unit for viewing an object and said viewing unit
defining a viewing beam path;

an image data supply for supplying image data;

5 an image projection module connected to said image data
supply for receiving said image data and inputting said image
data into said viewing beam path;

said image projection module including an image display unit
for displaying said data image;

10 a first beam splitter mounted in said viewing beam path for
receiving said data image displayed by said display unit and
passing said image data into said viewing beam path;

an image recording module for recording said data image and
an object image of said object supplied by said viewing unit;

15 said image recording module including an image sensor;
a second beam splitter mounted in said viewing beam path for
directing said object image onto said image sensor;

said image sensor generating an image signal from said
object image;

20 said image recording module further including a mixer
connected to said image sensor for receiving said image signal
and being connected to said image data supply for receiving said
image data to mix said image signal and said image data and
generate an output signal;

25 a video-recorder/monitor connected to said mixer for
receiving said output signal for display to a surgeon;

said image projection module further including an imaging
optic having a plano-convex lens and a plano-concave lens mounted
downstream of said image display unit for transmitting said data
30 image to said first beam splitter; and,

said image display unit including a rotatably mounted filter
wheel for illuminating said reflection display; and, a device for
synchronizing the rotation of said filter wheel with the clock
ratio of said reflection display.

52. (New) A surgical microscope comprising:

a viewing unit for viewing an object and said viewing unit
defining a viewing beam path;

an image data supply for supplying image data;

5 an image projection module connected to said image data
supply for receiving said image data and inputting said image
data into said viewing beam path;

said image projection module including an image display unit
for displaying said data image;

10 a first beam splitter mounted in said viewing beam path for
receiving said data image displayed by said display unit and
passing said image data into said viewing beam path;

an image recording module for recording said data image and
an object image of said object supplied by said viewing unit;

15 said image recording module including an image sensor;
a second beam splitter mounted in said viewing beam path for
directing said object image onto said image sensor;

said image sensor generating an image signal from said object image;

20 said image recording module further including a mixer connected to said image sensor for receiving said image signal and being connected to said image data supply for receiving said image data to mix said image signal and said image data and generate an output signal;

25 a video-recorder/monitor connected to said mixer for receiving said output signal for display to a surgeon;

 a shutter interposed between said first beam splitter and said object to suppress said object image to facilitate viewing said image data in said viewing unit;

30 said image projection module further including an imaging optic having a plano-convex lens and a plano-concave lens mounted downstream of said image display unit for transmitting said data image to said first beam splitter; and,

 said image display unit including a rotatably mounted filter
35 wheel for illuminating said reflection display; and, a device for synchronizing the rotation of said filter wheel with the clock ratio of said reflection display.